



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,571	02/27/2002	Joseph Logan	CS-21188	8953

27182 7590 07/18/2003

PRAXAIR, INC.
LAW DEPARTMENT - M1 557
39 OLD RIDGEBURY ROAD
DANBURY, CT 06810-5113

EXAMINER

THOMAS, ERIC W

ART UNIT PAPER NUMBER

2831

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,571

Applicant(s)

LOGAN ET AL.

Examiner

Eric W Thomas

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-9 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 10, 11, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

Mundt discloses in fig. 5, a chuck for securing work pieces with an electrostatic charge, the hybrid chuck comprising: a dielectric base (116) for supporting the hybrid

Art Unit: 2831

chuck, the dielectric base having a top surface; a conductive layer (110) covering at least a portion of the top surface of the dielectric base, the conductive layer being conductive for receiving a current to create an electrostatic charge and being non-metallic; and a top working surface (104), the top working surface covering the conductive layer and being flat for holding work pieces upon the receiving of the current to create the electrostatic charge in the conductive layer. Mundt does not expressly state the non-metallic conductive layer is for maintaining the electrostatic charge without significant eddy current losses in the presence of dynamic electromagnetic fields, but inherently performs the same function. The conductive layer of Mundt is formed from the same material as the present invention.

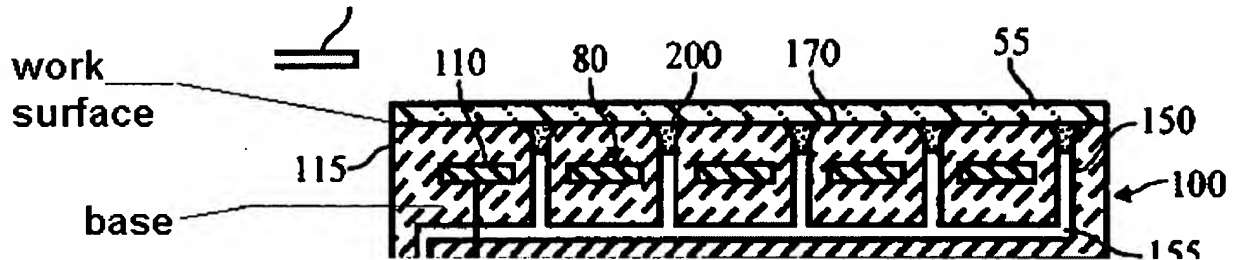
Regarding claim 2, Mundt discloses the dielectric base (col. 11 lines 65-67); conductive layer (col. 8 lines 30-33) and the top working surface (col. 8 lines 25-30) are ceramics.

Regarding claim 6, Mundt discloses a hybrid chuck for securing work pieces with an electrostatic charge, the hybrid chuck comprising: a dielectric ceramic base (116) for supporting the hybrid chuck, the dielectric ceramic base having a top surface; a conductive ceramic layer (110) covering at least a portion of the top surface of the dielectric ceramic base, the conductive ceramic layer being conductive for receiving a current to create an electrostatic charge and being ceramic for maintaining the electrostatic charge without significant eddy current losses in the presence of dynamic electromagnetic fields; and a top ceramic working surface (104), the top ceramic working surface covering the conductive ceramic layer and being flat for holding work

Art Unit: 2831

pieces upon the receiving of the current to create the electrostatic charge in the conductive ceramic layer.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Weldon et al. (US 6,108,189).



Weldon et al. disclose in fig. 2, a chuck for securing workpieces with an electrostatic charge, the chuck comprising: a dielectric ceramic base (see above 115) for supporting the hybrid chuck, the dielectric ceramic base having a top surface; a conductive ceramic layer (col. 21 lines 39-57) covering at least a portion of the top surface of the dielectric ceramic base, the conductive ceramic layer being conductive for receiving a current to create an electrostatic charge and being ceramic (col. 31 lines 55-67) ; and a top ceramic working surface (see above), the top ceramic working surface covering the conductive ceramic layer and being flat for holding workpieces upon the receiving of the current to create the electrostatic charge in the conductive ceramic layer.

Weldon et al. do not expressly state the non-metallic conductive layer is for maintaining the electrostatic charge without significant eddy current losses in the presence of dynamic electromagnetic fields, but inherently performs the same function.

Art Unit: 2831

The conductive layer of Weldon et al. is formed from the same material as the present invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2-3, 6-9, 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over ~~X~~ Weldon et al. (US 6,108,189).

PR 7/14/03

Weldon et al. disclose the conductive layer and top working surfaces are formed from ceramics (see above in claim 1). Weldon et al. do not disclose the base is formed from a ceramic. Alumina is a well known ceramic base material. It would have been

Art Unit: 2831

obvious to one having ordinary skill in the art at the time the invention was made to form the base material from an alumina, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 3, Weldon et al. disclose a protective film is formed on top of the top working surface. Weldon et al. do not disclose the protective film is formed from a hydrophobic material. Hydrophobic protective materials are well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the protective film from a hydrophobic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 6, Weldon et al. disclose a chuck for securing workpieces with an electrostatic charge, the chuck comprising: a dielectric base (see above fig) for supporting the hybrid chuck, the dielectric base having a top surface; a conductive ceramic layer (col. 21 lines 39-57) covering at least a portion of the top surface of the dielectric ceramic base, the conductive ceramic layer being conductive for receiving a current to create an electrostatic charge and being ceramic for maintaining the electrostatic charge without significant eddy current losses in the presence of dynamic electromagnetic fields; and a top ceramic working surface (see above), the top ceramic working surface covering the conductive ceramic layer and being flat for holding

Art Unit: 2831

workpieces upon the receiving of the current to create the electrostatic charge in the conductive ceramic layer.

Weldon et al. disclose the claimed invention except for the base is formed from a ceramic material. Alumina is a well known ceramic base material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the base material from an alumina, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 7, Weldon et al. disclose (see above in claim 6) the dielectric ceramic base is an alumina-base ceramic and the ceramic working surface is a conductor having a greater conductivity than the alumina-base ceramic.

Regarding claims 8 & 9, Weldon et al. disclose a protective film is formed on top of the top working surface. Weldon et al. do not disclose the protective film is formed from a hydrophobic material (regarding claim 9, silane or siloxane) Silane (or Siloxane). Hydrophobic silane protective materials are well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the protective layer from a hydrophobic silane material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 12, Weldon et al. disclose a chuck for securing workpieces with an electrostatic charge, the chuck comprising: a dielectric base (see above fig) for

Art Unit: 2831

supporting the hybrid chuck, the dielectric base having a top surface; a conductive ceramic layer (col. 21 lines 39-57) covering at least a portion of the top surface of the dielectric ceramic base, the conductive ceramic layer being conductive for receiving a current to create an electrostatic charge and being ceramic for maintaining the electrostatic charge without significant eddy current losses in the presence of dynamic electromagnetic fields; and a top ceramic working surface (see above), the top ceramic working surface covering the conductive ceramic layer and being flat for holding workpieces upon the receiving of the current to create the electrostatic charge in the conductive ceramic layer.

Weldon et al. disclose the claimed invention except for the base is formed from a ceramic material. Alumina is a well known ceramic base material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the base material from an alumina, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Weldon et al. disclose a protective film is formed on top of the top working surface. Weldon et al. do not disclose the protective film is formed from a hydrophobic material Silane. Hydrophobic silane protective materials are well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the protective layer from a hydrophobic silane material, since it has been held to be within the general skill of a worker in the art to select a known material

Art Unit: 2831

on the basis of its suitability for the intended use as a matter of obvious design choice.

In re Leshin, 125 USPQ 416.

Regarding claim 13, Weldon et al. disclose (see above in claim 6) the dielectric ceramic base is an alumina-base ceramic and the ceramic working surface is a conductor having a greater conductivity than the alumina-base ceramic.

Regarding claim 14, Weldon et al. (as seen above in claim 12) disclose the sealant is hydrophobic for repelling moisture from the hybrid chuck and electrically insulating for preventing electrostatic leakage (inherent feature of silane).

Regarding claim 15, Weldon et al. (as seen above in claim 12) disclose the sealant is a silane material.

Double Patenting

8. Applicant is advised that should claim 2 be found allowable, claim 6 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Allowable Subject Matter

9. Claims 4-5, 10-11, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2831

10. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or fairly suggest (taken in combination with the other claimed features) a chuck having at least two poles separated by a dielectric material (claims 4-5, 10-11, 16-17).

Conclusion

In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (703) 305-0878. The examiner can normally be reached on Mon & Sat 9:00AM - 9:30PM; Tues-Fri 5:30PM-10:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 703-308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


DEAN A. REICHARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800